54th IEEE Semiconductor Interface Specialists Conference

SISC 2023

December 13–16, 2023 (Tutorial: December 13)
Bahia Resort Hotel, San Diego, CA
www.ieeesisc.org

Call for Papers

The SISC is a workshop-style conference that provides a forum for device engineers, solid state physicists, and material scientists to discuss topics of common interest, formally through invited and contributed presentations, and informally during poster and rump sessions. SISC is sponsored by the IEEE Electron Devices Society and is held right after IEDM.

This year, SISC will be held as a fully in-person event.

The program includes talks and poster presentations (*theory and experiment*) on the role of materials and their interfaces on performance and reliability of:

- **Logic Devices** for future technology nodes (Nanosheet, CFET, VFET, etc.),
- Insulators on **High-Mobility** substrates (SiGe, Ge, etc.),
- Non-Volatile Memory for **AI / In-Memory / Neuromorphic Compute** (ReRAM, PCM, ECRAM, etc.),
- **Wide Bandgap** semiconductor power devices (SiC, GaN, β-Ga_2O_3, etc.),
- **Ferroelectric** devices (FET, memory, etc.),
- **Steep Sub-Threshold** slope logic devices (Tunnel FETs, etc.),
- **2D** materials and devices,
- **Monolithic and/or Heterogeneous** ICs (BEOL oxide transistors, interconnects, packaging, etc.),

including machine learning / materials discovery techniques developed and used for their study.

Confirmed Invited speakers

- **Prof. Masaharu Kobayashi**, U. Tokyo, Japan
  Oxide Semiconductor Transistors for LSI Application
- **Dr. Anabela Veloso**, imec, Belgium
  Entering a New Era of Nanosheet-based FET Device Architectures with Increased FEOL-BEOL Synergies
- **Prof. Sarit Dhar**, Auburn University, USA
  Interface Trapping and Scattering in 4H-SiC MOSFETs
- **Prof. Daniel Gall**, RPI, USA
  Interconnects: New Materials for High Conductivity
- **Dr. Ashish Penumatcha**, Intel, USA
  Enabling Gate-Pitch Scaling in the Angstrom Era
- **Prof. Bilge Yildiz**, MIT, USA
  Protonic Electrochemical Synapses for Analog Deep Learning and Beyond
- **Prof. Enxia Zhang**, Vanderbilt University, USA
  Radiation Effects and Reliability of 3D ICs

Wednesday evening Tutorial

- **Dr. Dale McHerron**, IBM, USA
  From Interconnects to Chiplets: Materials and Interfaces for Advanced Packaging

A **Best Student Presentation Award** will be given in memory of E. H. Nicollian.

A **Best Poster Award** will be given in memory of T. P. Ma.

Abstract submission deadline: August 6, 2023

Abstract submission, previous technical programs, contact information, etc.: https://www.ieeesisc.org